



232861

July 31, 2002

PHONE

630-293-6330

VIA CERTIFIED MAIL
RETURN RECEIPT REQUIRED

Ms. Jule Fausto
State of Utah
Department of Environmental Quality
Division of Radiation Control
168 North 1950 West
Salt Lake City, Utah 84114-4850

SUBJECT: Response to Notice of Violation dated July 8, 2002

REFERENCE: Teachers Site, Chicago, IL

Dear Ms. Fausto:

Enclosed find our written response to the July 8, 2002 Notice of Violation. As a part of this investigation a representative from Kerr-McGee met with you on July 11, 2002. A representative for our supplier, Baker Tanks was also present. During this meeting, evidence of corrective actions taken was supplied. This response also includes a copy of our revised NRC Uniform Low Level Radioactive Waste Manifest Forms 540 and 541 that will be used for future shipments of this type. Kerr-McGee will no longer be using the Bill of Lading (BOL) as the shipping paper. Please note that as of July 31, 2002; the waste material from the Chicago Sites is being shipped under new waste profile # 0659-02. The revised Form 541 attached to this response reflects this new waste profile.

In this letter, our proposed corrective action is listed after each alleged violation listed. We believe these actions will satisfy all regulatory requirements.

Violation 1

R313-26-6, states; "Generator Site Access Permittees shall be subject to the provisions of Rule R313-14 for violations of federal regulations, state rules or requirements in the current land disposal facility operating license regarding radioactive waste packaging, transportation, labeling, notification, classification, marking, manifesting or description".

49 Code of Federal Regulations (CFR) Part 173.475(b) states, "Quality control requirements prior to each shipment of Class 7 (radioactive) materials. Before each shipment of any Class 7 (radioactive) materials package, the offeror must ensure, by examination or appropriate tests, that the packaging is in unimpaired physical condition, except for superficial marks".

Contrary to this, Kerr-McGee offered into transportation intermodal container number BKRU 012887 on June 11, 2002, containing an reportable quantity (R.Q.), of Radioactive material, low specific activity, not otherwise specified (nos), that was leaking. It was noted during unloading operations at the Envirocare facility, that this intermodal container had failed to properly contain its contents, due to advanced corrosion in the floor panel where welds had rusted and broke through, leaking material. This packaging contained unwrapped bulk material in a reusable package. Before reuse, each packaging must be inspected and may not be reused unless free from incompatible residue, rupture, or other damage which reduces its structural integrity.

In accordance with R313-14-10, "Severity of Violations", this has been characterized as a Severity Level III, with a base Civil Penalty of \$2,500.00.

No Civil Penalty is proposed.

Response 1

Kerr-McGee routinely inspects each container as part of lining process. First, the empty containers are checked for standing water and any water is squeegeed out the back door. After the container is dry, the laborer enters the container and spreads a bag of cat litter as an absorbent across the entire base of the empty container. The next step is to spread a thick bead of water-absorbing polymer across the inside of the tailgate to absorb any water that might accumulate inside the container. At the time the laborer is spreading the polymer and cat litter, he performs a visual inspection of the integrity of the insides of the container. Any observed damage or deterioration would be cause for rejection of the container.

All of the containers have some degree of rust, but we have not observed any containers to date that had advanced corrosion to the point where the welds broke through. If the floor of the container were in poor condition, the laborer would have noted it during the lining process. Kerr-McGee believes that this container was in an acceptable condition prior to loading, and that damage to the weld occurred during the loading process, when it is possible that a steel pipe or concrete chunk landed directly on the weld in question during the first bucket placed into the container. The damage was a hairline crack that was located in an area that indicated an indentation was made.

The alleged violation noted that the package contained "unwrapped" material. After discussion with the inspector, it was noted that the shipping paper and the NRC Uniform Low Level Radioactive Waste Manifest Form 540 did not indicate the shipment was lined. The report that we received was that the material leaking from the container was in fact water - reported as non-contact water. The report further stated that the material was dry. We believe that the liner retained its general integrity with the exception of the internal impact area and did not allow the material to sift through. A sample of our liner has been provided to your office for inspection.

Additionally, there appeared to be a misconception that the container was being returned to Kerr-McGee without cleaning. All of our containers are cleaned and purged of all material by Envirocare prior to returning them for re-use. Kerr-McGee receives a certificate from Envirocare that states this for the returned containers.

Kerr-McGee has shipped approximately 2,000 intermodal containers of material to the site over the past seven years. This is the first leak that we know of in any container that was not caused by rough handling or an accident in transportation.

Corrective Actions: (1) We stressed the importance of the visual inspection to ensure the integrity of the containers during our morning safety meeting on July 12, 2002. Further, Kerr-McGee has had verbal discussions with the supplier, Baker Tanks, and they are in the process of developing a water test procedure for the intermodal containers that they provide. (2) The need to place a load of material relatively free of debris in the container prior to placing heavy debris in the bottom of the container was emphasized with our loading crew at a meeting on July 17, 2002. Each load of material placed in the container is observed by a member of that crew. If that person sees heavy debris in the initial load he is to request that it be put back into the excavated area and a load with less debris placed into the bottom of the container.

Violation 2

R313-26-6, states; "Generator Site Access Permittees shall be subject to the provisions of Rule R313-14 for violations of federal regulations, state rules or requirements in the current land disposal facility operating license

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regarding radioactive waste packaging, transportation, labeling, notification, classification, marking, manifesting or description”.

49 CFR Part 172.203(d)(10)(i) states, “Additional description requirements, Radioactive material. For a shipment required by this subpart (C) to be consigned as exclusive use: An indication that the shipment is consigned as exclusive use”.

Contrary to this, the shipper offered into transportation a straight bill of lading, shipment number 0659-01, dated June 11, 2002, without indicating that this shipment was an exclusive use shipment. Inspections revealed that the shipper provided an Nuclear Regulatory Commission (NRC) Uniform Low-Level Radioactive Waste Manifest Form 540 which is required to be filed for shipments of low-level radioactive waste intended for disposal at a licensed land disposal facility with box number two checked to indicate this to be an exclusive use shipment. Additionally, shipments in strong tight packages are required to be consigned as exclusive use shipments.

In accordance with R313-14-10, “Severity of Violations”, this has been characterized as a Severity Level V, with a base Civil Penalty of \$250.00.

No Civil Penalty is proposed.

Response 2

Prior to shipping, the drivers that transport the loaded intermodal containers from the Site to the railyard attend D.O.T. training provided by Kerr-McGee. This training includes the route and procedures that the carrier is to take. The routing instructions of the shipment indicate that the shipment is in fact an exclusive use shipment.

Corrective Action: The BOL will no longer be used as a shipping paper. Instead, the NRC Forms 540 & 541, Uniform Low-level Radioactive Waste Manifest, will be used as the shipping paper. A copy of the revised manifest has been attached to this letter. The Form 540 is marked as an “Exclusive Use” shipment.

Violation 3

R313-26-6, states; “Generator Site Access Permittees shall be subject to the provisions of Rule R313-14 for violations of federal regulations, state rules or requirements in the current land disposal facility operating license regarding radioactive waste packaging, transportation, labeling, notification, classification, marking, manifesting or description”.

49 CFR Part 172.202(a)(3) states, “Description of hazardous materials on shipping papers. The shipping description of a hazardous material on the shipping paper must include: The identification number prescribed for the material as shown in column 4 of the 172.01 table.”

Contrary to this, the shipper offered into transportation a straight bill of lading, shipment number 0659-01, dated June 11, 2002, without indicating the identification number prescribed for an RQ of Radioactive material, low specific activity, nos, LSA-I, which should have been UN2912.

In accordance with R313-14-10, “Severity of Violations”, this has been characterized as a Severity Level V, with a base Civil Penalty of \$250.00.

No Civil Penalty is proposed.

Response 3

Corrective Action: The BOL will no longer be used as a shipping paper. Instead, the NRC Forms 540 & 541, Uniform Low-level Radioactive Waste Manifest, will be used as the shipping paper. A copy of the revised manifest has been attached to this letter.

Violation 4

R3 13-26-6, states; "Generator Site Access Permittees shall be subject to the provisions of Rule R3 13-14 for violations of federal regulations, state rules or requirements in the current land disposal facility operating license regarding radioactive waste packaging, transportation, labeling, notification, classification, marking, manifesting or description".

49 CFR Part 172.203(d)(3) states, "Additional description requirements. Radioactive material. The description for a shipment of a Class 7 (radioactive) material must include the following additional entries as appropriate: A description of the physical and chemical form of the material, if the material is not in special form (Generic chemical description is acceptable for chemical form)".

Contrary to this, the shipper offered into transportation a straight bill of lading, shipment number 0659-01, dated June 11, 2002, without describing the physical and chemical form of the material.

In accordance with R313-14-10, "Severity of Violations", this has been characterized as a Severity Level IV, with a base Civil Penalty of \$250.00.

No Civil Penalty is proposed.

Response 4

The NRC Uniform Low Level Radioactive Waste Manifest Form 540 contained the items solid/oxides as the physical and chemical form of the material. This did not however get placed on the BOL.

Corrective Action: The BOL will no longer be used as a shipping paper. Instead, the NRC Forms 540 & 541, Uniform Low-level Radioactive Waste Manifest, will be used as the shipping paper. A copy of the revised manifest has been attached to this letter.

Violation 5

R3 13-26-6, states; "Generator Site Access Permittees shall be subject to the provisions of Rule R313-14 for violations of federal regulations, state rules or requirements in the current land disposal facility operating license regarding radioactive waste packaging, transportation, labeling, notification, classification, marking, manifesting or description".

49 CFR Part 172.203(d)(2) states, "Additional description requirements. Radioactive material. The description for a shipment of a Class 7 (radioactive) material must include the following additional entries as appropriate: The name of each radionuclide in the Class 7 (radioactive) material that is listed in 173.435 of this subchapter. For mixtures of radionuclides, the radionuclides that must be shown must be determined in accordance with 173.433(f) of this subchapter".

Contrary to this, the shipper offered into transportation a straight bill of lading, shipment number 0659-01, dated June 11, 2002, without naming the required radionuclides in accordance with the formula found in 173.433(f). The bill of lading should have included the names of Radium-226 in addition to the parent shipped.

In accordance with R313-14-10, "Severity of Violations", this has been characterized as a Severity Level IV, with a base Civil Penalty of \$750.00.

No Civil Penalty is proposed.

Response 5

The basic isotope constituting 95% of the hazard is natural thorium. Kerr-McGee's interpretation of the regulation therefore listed Th-232 and daughter products as the isotope providing the hazard on the BOL, in fulfillment of this requirement.

Corrective Action: The BOL will no longer be used as a shipping paper. Instead, the NRC Forms 540 & 541, Uniform Low-level Radioactive Waste Manifest, will be used as the shipping paper. A copy of the revised manifest has been attached to this letter.

Violation 6

R313-26-6, states; "Generator Site Access Permittees shall be subject to the provisions of Rule R3 13-14 for violations of federal regulations, state rules or requirements in the current land disposal facility operating license regarding radioactive waste packaging, transportation, labeling, notification, classification, marking, manifesting or description".

49 CFR Part 172.203(d)(4) states, "Additional description requirements. Radioactive material. The description for a shipment of a Class 7 (radioactive) material must include the following additional entries as appropriate: The activity contained in each package of the shipment in terms of the appropriate SI units e.g., Becquerel, Terabecquerel, etc.) or in terms of the appropriate SI units followed by the customary units (e.g., Curies, millicuries, etc.)".

Contrary to this, the shipper offered into transportation a straight bill of lading, shipment number 0659-0 1, dated June 11, 2002, without indicating the activity contained in each package. The bill of lading should have indicated the "total" activity contained in the package.

In accordance with R313-14-10, "Severity of Violations", this has been characterized as a Severity Level IV, with a base Civil Penalty of \$750.00.

No Civil Penalty is proposed.

Response 6

Corrective Action: The Bill of Lading (BOL) will no longer be used as a shipping paper. Instead, the NRC Forms 540 & 541, Uniform Low-level Radioactive Waste Manifest, will be used as the shipping paper. A copy of the revised manifest has been attached to this letter.

Violation 7

R313-26-6, states; "Generator Site Access Permittees shall be subject to the provisions of Rule R3 13-14 for violations of federal regulations, state rules or requirements in the current land disposal facility operating license regarding radioactive waste packaging, transportation, labeling, notification, classification, marking, manifesting or description".

49 CFR Part 173.433(f) states, "Requirements for determining A and A values for radionuclides and for the listing of radionuclides on shipping papers and labels. Shipping papers and labeling. For mixtures of radionuclides, the radionuclides (n) that must be shown on shipping papers and labels in accordance with 172.203 and 172.403 of this subchapter, respectively, must be determined on the basis of the following formula.

$$\sum_{i=1}^n \frac{a(i)}{A(i)} \geq 0.95 \sum_{i=1}^{n+m} \frac{a(i)}{A(i)}$$

Contrary to this, the shipper offered into transportation a straight bill of lading, shipment number 0659-0 1, dated June 11, 2002, without listing the required radionuclides in accordance with the above formula. The bill of lading should have included the Radium-226 in addition to the Thorium-232 because, it's not a daughter of Thorium-232 and is listed on the NRC 540 Form as a detectable radionuclide.

In accordance with R313-14-10, "Severity of Violations", this has been characterized as a Severity Level IV, with a base Civil Penalty of \$750.00.

No Civil Penalty is proposed.

Response 7

Corrective Action: The BOL will no longer be used as a shipping paper. Instead, the NRC Forms 540 & 541, Uniform Low-level Radioactive Waste Manifest, will be used as the shipping paper. A copy of the revised manifest has been attached to this letter.

Violation 8

R313-26-6, states; "Generator Site Access Permittees shall be subject to the provisions of Rule R313-14 for violations of federal regulations, state rules or requirements in the current land disposal facility operating license regarding radioactive waste packaging, transportation, labeling, notification, classification, marking, manifesting or description".

49 CFR Part 172.203(c)(2) states, "Additional description requirements. Radioactive material. The description for a shipment of a Class 7 (radioactive) material must include the following additional entries as appropriate: The letters "RQ" shall be entered on the shipping paper either before or after, the basic description required by 172.202 for each hazardous substance".

Contrary to this, the shipper offered into transportation an incorrect NRC Uniform Low Level Radioactive Waste Manifest Form 540, for shipment number 0659-01-20012, dated June 11, 2002. This shipping paper was incorrect account it did not include the letters "RQ" required by 172.202 for each hazardous substance".

In accordance with R313-14-10, "Severity of Violations", this has been characterized as a Severity Level V, with a base Civil Penalty of \$250.00.

No Civil Penalty is proposed.

Response 8

The BOL was used as the shipping paper. It included the letters "RQ" before the description of the material. This description was not used on the NRC Uniform Low Level Radioactive Waste Manifest Form 540.

Corrective Action: The basic description is now used on the NRC Uniform Low Level Radioactive Waste Manifest Form 540. When material reaches the reportable quantity level, it is recorded with the letters "RQ". A copy of the NRC Uniform Low Level Radioactive Waste Manifest Form 540 is attached to this letter.

Violation 9

R313-26-6, states; "Generator Site Access Permittees shall be subject to the provisions of Rule R313-14 for violations of federal regulations, state rules or requirements in the current land disposal facility operating license regarding radioactive waste packaging, transportation, labeling, notification, classification, marking, manifesting or description".

49 CFR Part 172.202(a)(2) states, "Description of hazardous material on shipping papers. The shipping description of a hazardous material on the shipping paper must include: The hazard class or division prescribed for the material as shown in column 3 of the 172.101 table (class names or subsidiary hazard class or division number may be entered following the numerical hazard class, or following the basic description)".

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Contrary to this, the shipper offered into transportation an incorrect NRC Uniform Low-Level Radioactive Waste Manifest Form 540, for shipment number 0659-01-200 12, dated June 11, 2002. This shipping paper was incorrect because it did not include the hazard class prescribed for the materials shipped, hazard Class 7 should have been shown.

In accordance with R313-14-10, "Severity of Violations", this has been characterized as a Severity Level V, with a base Civil Penalty of \$250.00.

No Civil Penalty is proposed.

Response 9

The BOL was used as the shipping paper. It included Class 7 in the description of the material. This description was not used on the NRC Uniform Low Level Radioactive Waste Manifest Form 540.

Corrective Action: The basic description is now used on the NRC Uniform Low Level Radioactive Waste Manifest Form 540. It includes Class 7. A copy of the revised NRC Uniform Low Level Radioactive Waste Manifest Form 540 is attached to this letter.

Violation 10

R313-26-6, states; "Generator Site Access Permittees shall be subject to the provisions of Rule R313-14 for violations of federal regulations, state rules or requirements in the current land disposal facility operating license regarding radioactive waste packaging, transportation, labeling, notification, classification, marking, manifesting or description".

49 CFR Part 172.202(a)(3) states, "Description of hazardous material on shipping papers. The shipping description of a hazardous material on the shipping paper must include: The identification number prescribed for the material as shown in column 4 of the 172.101 table".

Contrary to this, the shipper offered into transportation an incorrect NRC Uniform Low-Level Radioactive Waste Manifest Form 540, for shipment number 0659-01-20012, dated June 11, 2002. This shipping paper was incorrect account it did not include the identification number prescribed for the materials shipped, identification number UN 2912.

In accordance with R313-14-10, "Severity of Violations", this has been characterized as a Severity Level V, with a base Civil Penalty of \$250.00.

No Civil Penalty is proposed.

Response 10

The BOL had been modified to include "UN 2912" in the description and classification section of the BOL prior to the incident. This error occurred when the BOL format was placed into the computer and was soon noticed and corrected. The orange panel on the outside of the container did reflect the material as 2912.

Corrective Action: The basic description is now used on the NRC Uniform Low Level Radioactive Waste Manifest Form 540. This description contains the ID number UN-2912. A copy of the NRC Uniform Low Level Radioactive Waste Manifest Form 540 is attached to this letter.

Violation 11

R313-26-6, states; "Generator Site Access Permittees shall be subject to the provisions of Rule R313-14 for violations of federal regulations, state rules or requirements in the current land disposal facility operating license

regarding radioactive waste packaging, transportation, labeling, notification, classification, marking, manifesting or description”.

49 CFR Part 172.203(d)(11) states, “Additional description requirements. Radioactive material. The description for a shipment of a Class 7 (radioactive) material must include the following additional entries as appropriate: For a shipment of low specific activity material or surface contaminated objects, the appropriate group notation of LSA-I, LSA-II, LSA-III, SCO-I, or SCO-II”.

Contrary to this, the shipper offered into transportation an incorrect NRC Uniform Low- Level Radioactive Waste Manifest Form 540, for shipment number 0659-01-20012, dated June 11, 2002. This shipping paper was incorrect account it did not include the appropriate group notation of LSA-I.

In accordance with R313-14-10, “Severity of Violations”, this has been characterized as a Severity Level V, with a base Civil Penalty of \$250.00.

No Civil Penalty is proposed.

Response 11

The BOL was used as the shipping paper. It included LSA-1 in the description of the material. This description was not used on the NRC Uniform Low Level Radioactive Waste Manifest Form 540.

Corrective Action: The basic description is now used on the NRC Uniform Low Level Radioactive Waste Manifest Form 540. The description includes LSA-1. A copy of the NRC Uniform Low Level Radioactive Waste Manifest Form 540 is attached to this letter.

Violation 12

R313-26-6, states; “Generator Site Access Permittees shall be subject to the provisions of Rule R313-14 for violations of federal regulations, state rules or requirements in the current land disposal facility operating license regarding radioactive waste packaging, transportation, labeling, notification, classification, marking, manifesting or description”.

49 CFR Part 172.202(a)(1) states, “Description of hazardous material on shipping papers. The shipping description of a hazardous material on the shipping paper must include: The proper shipping name prescribed for the material in column 2 of the 172.101 table”.

Contrary to this, the shipper offered into transportation an incorrect NRC Uniform Low-Level Radioactive Waste Manifest Form 540, for shipment number 0659-01-20012, dated June 11, 2002. This shipping paper was incorrect account it did not include the proper shipping name prescribed for the materials shipped, an reportable quantity (R.Q.), Radioactive material, low specific activity, not otherwise specified (nos).

In accordance with R313-14-10, “Severity of Violations”, this has been characterized as a Severity Level IV, with a base Civil Penalty of \$750.00.

No Civil Penalty is proposed.

Response 12

The BOL was used as the shipping paper. It included the proper shipping name of the material as “RQ, Radioactive Material, Low Specific Activity, N.O.S.” This description was not used on the NRC Uniform Low Level Radioactive Waste Manifest Form 540.

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Corrective Action: The basic description is now used on the NRC Uniform Low Level Radioactive Waste Manifest Form 540. It includes "RQ, Radioactive Material, Low Specific Activity, N.O.S." . A copy of the NRC Uniform Low Level Radioactive Waste Manifest Form 540 is attached to this letter.

Violation 13

R313-26-6, states; "Generator Site Access Permittees shall be subject to the provisions of Rule R313-14 for violations of federal regulations, state rules or requirements in the current land disposal facility operating license regarding radioactive waste packaging, transportation, labeling, notification, classification, marking, manifesting or description".

R313-15-1008(3), states; "Labeling. Each package of waste shall be clearly labeled to identify whether it is Class A, Class B, or Class C waste, in accordance with Subsection R313-15-1008(1)".

Contrary to the above, on June 24, 2002, the inspector observed packages of Class A waste arriving at Envirocare of Utah. The waste was identified as Class A unstable on the manifest, therefore, the waste should have been labeled as Class A unstable. Intermodal container number BKRU 012887 was identified as not being labeled.

In accordance with R313-14-10, "Severity of Violations", this has been characterized as a Severity Level V, with a base Civil Penalty of \$250.00.

No Civil Penalty is proposed.

Response 13

At the time the shipment in question was received at Envirocare of Utah, the waste material was classified as Pre-1978 11(e)2 material. Per discussion the requirement described in alleged Violation 13 is not applicable for shipments of 11(e)2. As of July 31, 2002 the material has been reclassified under a new waste profile 0659-02. As a result, the revised Form 541 shows "Class A Unstable" in the Waste Classification column. All containers shipped under this new profile will be labeled on the outside of the container as Class A Unstable

Please call me at (630) 293-6331 if you have any questions.

Very truly yours,

KERR-McGEE CHEMICAL LLC



Mark S. Krippel
Program Manager

Attachments

cc: Mr. William J. Sinclair, Executive Secretary, Utah DRC

Mr. Fred Micke, RPM/OSC, U.U. EPA

File: DPCH - EPA

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER		5. SHIPPER - NAME AND FACILITY Kerr-McGee Chemical LLC P.O. Box 548 800 Weyrauch Street West Chicago, IL 60185		SHIPPER I.D. NUMBER 0659		7. NRC FORM 540 AND 540A PAGE 1 OF 3 PAGES NRC FORM 541 AND 541A PAGE 2 OF 3 PAGES NRC FORM 542 AND 542A Not Used ADDITIONAL INFORMATION PAGE 3 OF 3 PAGES		8. MANIFEST NUMBER (Use this number on all continuation pages) 0659-02- 0001	
				COLLECTOR					
				PROCESSOR					
				GENERATOR TYPE X Industrial					
UTAH PERMIT NUMBER: 0110 000 013		SHIPMENT NUMBER		9. CONSIGNEE - Name and Facility Address Envirocare of Utah, Inc. Clive Disposal Site Interstate 80, Exit 49 Clive, UT 84029		CONTACT Shipping and Receiving			
CONTACT Mark Kriibel		TELEPHONE NUMBER (Include Area Code) 630-293-6330				TELEPHONE NUMBER (435) 884-0155			
6. CARRIER - Name and Address Union Pacific Railroad 1416 Dodge Street Omaha, NE. 68179		EPA I.D. NUMBER				SIGNATURE - Authorized consignee acknowledging waste receipt		DATE	
1. EMERGENCY TELEPHONE NUMBER (Include Area Code) In Case of Emergency Call CHEMTREC 1-800-424-9300		3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST 1		CONTACT Dale Brav		TELEPHONE NUMBER (Include Area Code) 888-877-7267		10. CERTIFICATION This is to certify that the herein-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified, packaged, and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61, or equivalent state regulations.	
ORGANIZATION Kerr-McGee Chemical LLC									
2. IS THIS AN "EXCLUSIVE USE" SHIPMENT? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO									
4. DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		EPA MANIFEST NUMBER		SIGNATURE - Authorized carrier acknowledging waste receipt		Date 7/1/02		AUTHORIZED SIGNATURE	
If "Yes," provide Manifest Number >>>>>		11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number and any additional information)		12. DOT LABEL "RADIOACTIVE"		13. TRANSPORT INDEX		14. PHYSICAL AND CHEMICAL FORM	
15. INDIVIDUAL RADIONUCLIDES		16. TOTAL PACKAGE ACTIVITY		17. LSA/SCO CLASS		18. TOTAL WEIGHT OR VOLUME (Use appropriate units)		19. IDENTIFICATION NUMBER OF PACKAGE	
MBq mCi		LSA-1		21.61 tons		BKRU00000			
RQ, Radioactive Material, Low Specific Activity,		NA		NA		Solid / Thorium Oxide		Th-232, Ra-226, Th-230, U-nat	
N.O.S., Class 7, UN 2912, LSA-1		cubic feet		1.02E+03 2.76E+01		1.02E+03 2.76E+01		1.02E+03 2.76E+01	
Rail Contract DER-UP-C-21242		STCC Code 4929133 Prepaid		DO NOT HUMP		PLACARDED		ROUTE: MM-Blue Island, LAIS-Grand Junction, UP - Clive	
FOR CONSIGNEE USE ONLY		20. TERMS AND CONDITION		A: HAZARDOUS MATERIALS: Generator represents & warrants that Waste Material ____ is (or) <u>X</u> is not a hazardous waste as defined in 40 CFR 261. Where the material is a hazardous waste, this shipment is also accompanied by a separate and complete hazardous waste manifest, along with the appropriate land-disposal restriction notice and/or certification as required by 40 CFR 268.1		B: TITLE: Upon acceptance at the disposal site by Envirocare of Utah, Inc., and all appropriate regulatory authorities, title to the Waste Material which conforms to Generator's representation herein shall thereupon transfer from the Generator and be vested in Envirocare of Utah, Inc.		C: WASTE MATERIAL: Generator represents and warrants that all data set forth in this (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) are true and correct in all respects and in accordance with all applicable governmental laws, rules, regulations and Envirocare of Utah, Inc.'s facility license.	
Record Waste Description Inadequate Contamination or Leakage Detected Unexpected Exposure Rates Detected Labels, Markings, etc. Inadequate _____ Container Integrity Inadequate _____ Other No Violations Detected on this Shipment		D: INDEMNIFICATION: Generator agrees to indemnify Envirocare of Utah, Inc., its officers, its employees and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) or if this shipment fails to meet the standards presented by the Department of Transportation or any governmental agency having jurisdiction over such matters.		1.02E+03 2.76E+01		1.02E+03 2.76E+01		1.02E+03 2.76E+01	

DRIVER INSTRUCTIONS

This shipment is being transported as an Exclusive Use shipment. As such, it may only be loaded by the direction of the consignor and unloaded under the direction of the consignor or consignee. Any removal, addition to, or movement of any material in this shipment by anyone except under the direction of the consignee or consignor is Forbidden.

PUBLIC SAFETY

- In case of emergency: **CALL CHEMTREC 1-800-424-9300**
- Then call 1-630-293-6330 to inform consignee
- Priorities for rescue, life saving, first aid, and control of fire and other hazards are higher than the priority for measuring radiation.

EMERGENCY RESPONSE INFORMATION

For additional emergency response information, use Guide page 162 of the North American Emergency Response Guide 2000.

Potential Hazards:

- Radiation presents minimal risk to transport workers, emergency response personnel, and the public during transportation accidents.
- Low radiation hazard when material is inside container. Some material may be released during accidents of moderate severity but risks to people are not great.
- Runoff from control of fire may cause low-level pollution.

Fire:

- Some of the debris may burn, but most do not ignite readily.
- Presence of radioactive material will not influence the fire control process and should not influence selection of techniques.

Spill or Leak:

- Do not unnecessarily touch damaged packages or spilled material.
- Cover material spill with plastic sheet or tarp to minimize spreading.

First Aid:

- Medical problems take priority over radiological concerns.
- Use first aid treatment according to the nature of the injury.
- Do not delay care and transport of a seriously injured person.

FORM 541
(3-88)

ENVIROCARE OF UTAH, INC.

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and
Disposal of Radioactive Waste

1. MANIFEST TOTALS

NUMBER OF
PACKAGES/
DISPOSAL
CONTAINERS

NET WASTE
VOLUME

NET WASTE
WEIGHT

SPECIAL NUCLEAR MATERIAL (normal)

U-233

U-235

PU

TOTAL

0.00E+00

0.00E+00

0.00E+00

0.00E+00

2. MANIFEST NUMBER

0659-02- 0001

3. PAGE 2 of 3 PAGES(S)

ACTIVITY (MBq)

SOURCE

4. SHIPPER NAME

Kerr-McGee Chemical LLC
800 Weyrauch Street
West Chicago, IL 60185

SHIPMENT ID NUMBER

ALL NUCLIDES

TRITIUM

C-14

Tc-99

I-129

MBq

0.00E+00

0.00E+00

0.00E+00

0.00E+00

0.00E+00

mCi

0.00E+00

0.00E+00

0.00E+00

0.00E+00

(kg)

1.99E+01

(tons)

2.18E-02

DISPOSAL CONTAINER DESCRIPTION

WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER

5

CONTAINER
IDENTIFICATION
NUMBER/
GENERATOR
ID NUMBERS

6

CONTAINER
DESCRIPTION
(See Notes 1)

7

VOLUME
(m3)
(ft3)

8

WASTE
AND
CONTAINER
WEIGHT
(kg)
(est. tons)

9

SURFACE
RADIATION
LEVEL
(mSv/hr)
(mR/hr)

10

SURFACE
CONTAMINATION
MBq/100cm2
dpm/100cm2
ALPHA BETA-
GAMMA

11

WASTE
DESCRIPTOR
(See Note 2)

12

APPROXIMATE
WASTE
VOLUMES(S) IN
CONTAINER
(m3)
(ft3)

13

SORBENT
SOLIDIFICATION
STABILIZATION
MEDIA
(See Note 3)

14

CHEMICAL DESCRIPTION

CHEMICAL FORM/
CHELATING AGENT

WEIGHT
%
CHELATING
AGENT
IF>0.1%

15

RADIOLOGICAL DESCRIPTION

INDIVIDUAL RADIONUCLIDES, ACTIVITY (MBq),
CONCENTRATION, AND CONTAINER TOTAL ACTIVITY

RADIONUCLIDES

pCi/gm

MBq

mCi

16. WASTE
CLASSIFI-
CATION
AS-Class A
Stable
N/A 11(e)2
B-Class B
C-Class C

Class A
Unstable

Class A
Unstable

Class A
Unstable

Class A
Unstable

NOTE 1: Containers Description Codes. For containers/
waste requiring disposal in approved structural overpacks
the numerical code must be followed by "OP."

1. Wooden Box or Crate

2. Metal Box

3. Plastic Drum or Pail

4. Metal Drum or Pail

5. Metal Tank or Liner

6. Concrete Tank or Liner

7. Polyethylene Tank or Liner

8. Fiberglass Tank or Liner

9. Demineralizer

10. Gas Cylinder

11. Bulk, Unpackaged Waste

12. Unpackaged Components

13. High Integrity Container

19. Other. Describe in Item 6,
or additional page

Note 1A: Bulk Packaging Description Codes
(Choose one code as may be applicable.)

A. Gondola

B. Intermodal

C. End-dump

D. Roll-off

E. Seavan

NOTE 2: Waste Descriptor Codes (Choose up to three which predominate by volume.)

20. Charcoal

21. Incinerator Ash

22. Soil

23. Gas

24. Oil

25. Aqueous Liquid

26. Filter Media

27. Mechanical Filter

28. EPA or Site Hazardous

29. Demolition Rubble

30. Cation Ion-exchange Media

31. Anion Ion-exchange Media

32. Mixed Bed Ion-Exchange Media

33. Contaminated Equipment

34. Organic Liquid (except animal carcass)

35. Glassware or Labware

36. Sealed Source/Device

37. Paint or Plating

38. Evaporator Bottoms/Sludges/Concentrations

39. Compactable Trash

40. Noncompactable Trash

41. Animal Carcass

42. Biological Material (Except Animal Carcass)

43. Activated Material

59. Other. Describe in Item 11,
or additional page

NOTE 2A: Specific Waste Descriptions
(Choose all applicable)

G. Dewatered

H. Solid

I. Combustible

J. Non-combustible

K. Air Filtration Filters

L. Asbestos

NOTE 3: Solidification, Stabilization Media Codes. (Choose up to three
which predominate by volume.) For solidification media meeting disposal
structural stability requirements, the numerical code must be followed by
"S" For all solidification media

Solidification

90. Cement

91. Concrete

92. Bitumen

93. Vinyl Chloride

94. Vinyl Ester Styrene

99. Other. Describe
in Item 13, or
additional page

100. None Required

FORM 541 (3-88)

DRIVER INSTRUCTIONS

This shipment is being transported as an Exclusive Use shipment. As such, it may only be loaded by the direction of the consignor and unloaded under the direction of the consignor or consignee. Any removal, addition to, or movement of any material in this shipment by anyone except under the direction of the consignee or consignor is Forbidden.

PUBLIC SAFETY

- In case of emergency: **CALL CHEMTREC 1-800-424-9300**
- Then call 1-630-293-6330 to inform consignee
- Priorities for rescue, life saving, first aid, and control of fire and other hazards are higher than the priority for measuring radiation.

EMERGENCY RESPONSE INFORMATION

For additional emergency response information, use Guide page 162 of the North American Emergency Response Guide 2000.

Potential Hazards:

- Radiation presents minimal risk to transport workers, emergency response personnel, and the public during transportation accidents.
- Low radiation hazard when material is inside container. Some material may be released during accidents of moderate severity but risks to people are not great.
- Runoff from control of fire may cause low-level pollution.

Fire:

- Some of the debris may burn, but most do not ignite readily.
- Presence of radioactive material will not influence the fire control process and should not influence selection of techniques.

Spill or Leak:

- Do not unnecessarily touch damaged packages or spilled material.
- Cover material spill with plastic sheet or tarp to minimize spreading.

First Aid:

- Medical problems take priority over radiological concerns.
- Use first aid treatment according to the nature of the injury.
- Do not delay care and transport of a seriously injured person.

(3-88) UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER		5. SHIPPER - NAME AND FACILITY Kerr-McGee Chemical LLC P.O. Box 548 800 Weyrauch Street West Chicago, IL 60185		SHIPPER I.D. NUMBER 0659 COLLECTOR PROCESSOR GENERATOR TYPE X Industrial		7. NRC FORM 540 AND 540A PAGE 1 OF 2 PAGE(S) NRC FORM 541 AND 541A PAGE 2 OF 2 PAGE(S) NRC FORM 542 AND 542A Not Used ADDITIONAL INFORMATION Not Used		8. MANIFEST NUMBER (Use this number on all continuation pages) 0659-02- 0001	
1. EMERGENCY TELEPHONE NUMBER (Include Area Code) In Case of Emergency Call CHEMTREC 1-800-424-9300 ORGANIZATION Kerr-McGee Chemical LLC		UTAH PERMIT NUMBER: 0110 000 013 SHIPMENT NUMBER		TELEPHONE NUMBER (Include Area Code) 630-293-6330 EPA I.D. NUMBER SHIPPING DATE 7/22/02 TELEPHONE NUMBER (Include Area Code) 888-877-7267		9. CONSIGNEE - Name and Facility Address Envirocare of Utah, Inc. Clive Disposal Site Interstate 80, Exit 49 Clive, UT 84029 SIGNATURE - Authorized consignee acknowledging waste receipt		CONTACT Shipping and Receiving TELEPHONE NUMBER (435) 884-0155 DATE	
2. IS THIS AN "EXCLUSIVE USE" SHIPMENT? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST =====> 1		6. CARRIER - Name and Address Union Pacific Railroad 1416 Dodge Street Omaha, NE. 68179		10. CERTIFICATION This is to certify that the herein-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified, packaged, and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61, or equivalent state regulations.		11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (including proper shipping name, hazard class, UN ID number and any additional information)	
4. DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO If "Yes," provide Manifest Number =====>		EPA MANIFEST NUMBER		CONTACT Dale Brav SIGNATURE - Authorized carrier acknowledging waste receipt		16. TOTAL PACKAGE ACTIVITY MBq mCi		17. LSA/SCO CLASS	
11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (including proper shipping name, hazard class, UN ID number and any additional information)		12. DOT LABEL "RADIOACTIVE"		13. TRANSPORT INDEX		14. PHYSICAL AND CHEMICAL FORM		15. INDIVIDUAL RADIONUCLIDES	
Ore tailings and soils and debris containing		NA		NA		Solid / Thorium Oxide		Th-232, Ra-226, Th-230, U-nat	
small amounts of radioactive material with									
low radiological hazards.									
Rail Contract DER-UP-C-21242									
STCC Code 4929133 Prepaid									
DO NOT HUMP									
ROUTE: MM-Blue Island, LAIS-Grand Junction, UP - Clive									
FOR CONSIGNEE USE ONLY Record Waste Description Inadequate Contamination or Leakage Detected Unexpected Exposure Rates Detected Labels, Markings, etc. Inadequate _____ Container Integrity Inadequate _____ Other No Violations Detected on this Shipment		20. TERMS AND CONDITION A: HAZARDOUS MATERIALS: Generator represents & warrants that Waste Material ____ is (or) <u>X</u> is not a hazardous waste as defined in 40 CFR 261. Where the material is a hazardous waste, this shipment is also accompanied by a separate and complete hazardous waste manifest, along with the appropriate land-disposal restriction notice and/or certification as required by 40 CFR 268.1 B: TITLE: Upon acceptance at the disposal site by Envirocare of Utah, Inc., and all appropriate regulatory authorities, title to the Waste Material which conforms to Generator's representation herein shall thereupon transfer from the Generator and be vested in Envirocare of Utah, Inc. C: WASTE MATERIAL: Generator represents and warrants that all data set forth in this (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) are true and correct in all respects and in accordance with all applicable governmental laws, rules, regulations and Envirocare of Utah, Inc.'s facility license. D: INDEMNIFICATION: Generator agrees to indemnify Envirocare of Utah, Inc., its officers, its employees and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) or if this shipment fails to meet the standards presented by the Department of Transportation or any governmental agency having jurisdiction over such matters.							

FORM 541
(3-98)

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and
Disposal of Radioactive Waste

ENVIROCARE OF UTAH, INC.

1. MANIFEST TOTALS

NUMBER OF
PACKAGES/
DISPOSAL
CONTAINERS

NET WASTE
VOLUME

NET WASTE
WEIGHT

U-233
0.00E+00

U-235
0.00E+00

PU
0.00E+00

TOTAL
0.00E+00

1

(m3)
(ft3)

405

(kg)
(tone)

21.6

ACTIVITY (MBq)

ALL NUCLIDES

TRITIUM

C-14

Tc-99

L-129

MBq

0.00E+00

0.00E+00

0.00E+00

0.00E+00

mCi

0.00E+00

0.00E+00

0.00E+00

0.00E+00

SOURCE

(kg)

3.12E+00

(tons)

3.43E-03

2. MANIFEST NUMBER

0659-02- 0001

3. PAGE 2 of 2 PAGES(S)

4. SHIPPER NAME

Kerr-McGee Chemical LLC
800 Weyrauch Street
West Chicago, IL 60185

SHIPMENT ID NUMBER

DISPOSAL CONTAINER DESCRIPTION

5

CONTAINER
IDENTIFICATION
NUMBER/
GENERATOR
ID NUMBERS

6

CONTAINER
DESCRIPTION
(See Notes 1)

7

VOLUME
(m3)
(ft3)

8

WASTE
AND
CONTAINER
WEIGHT
(kg)
(est. tons)

9

SURFACE
RADIATION
LEVEL
(mSv/hr)
(mR/hr)

10

SURFACE
CONTAMINATION
MBq/100cm2
dpm/100cm2
ALPHA
BETA-
GAMMA

11

WASTE
DESCRIPTOR
(See Note 2)

12

APPROXIMATE
WASTE
VOLUMES(S) IN
CONTAINER
(m3)
(ft3)

13

SORBENT
SOLIDIFICATION
STABILIZATION
MEDIA
(See Note 3)

14

CHEMICAL DESCRIPTION

15

RADIOLOGICAL DESCRIPTION

16

WASTE
CLASSIFI-
CATION
AS-Class A
Stable
NA 11(a)2
B-Class B
C-Class C

INDIVIDUAL RADIONUCLIDES, ACTIVITY (MBq),
CONCENTRATION, AND CONTAINER TOTAL ACTIVITY

RADIONUCLIDES

pCi/gm

MBq

mCi

Class A
Unstable

Class A
Unstable

Class A
Unstable

Class A
Unstable

BKRU00002	11B LINED	540	25.47	0.022	<200	<2000	22, 29	405	100	Thorium Oxide	NP	Th-232	1.53E+01	1.11E+01	3.00E-01	Class A Unstable
												Ra-226	6.92E+00	5.03E+00	1.36E-01	Class A Unstable
												Th-230	< 2.29E+00	< 1.67E+00	< 4.50E-02	Class A Unstable
												U-nat	< 1.42E+01	< 1.03E+01	< 2.78E-01	Class A Unstable

NOTE 1: Containers Description Codes. For containers/waste requiring disposal in approved structural overpacks the numerical code must be followed by "OP."

1. Wooden Box or Crate	9. Demineralizer
2. Metal Box	10. Gas Cylinder
3. Plastic Drum or Pail	11. Bulk, Unpackaged Waste
4. Metal Drum or Pail	12. Unpackaged Components
5. Metal Tank or Liner	13. High Integrity Container
6. Concrete Tank or Liner	19. Other. Describe in Item 6, or additional page
7. Polyethylene Tank or Liner	
8. Fiberglass Tank or Liner	

Note 1A: Bulk Packaging Description Codes. (Choose one code as may be applicable.)

A. Gondola
B. Intermodal
C. End-dump
D. Roll-off
E. Seavan

NOTE 2: Waste Descriptor Codes. (Choose up to three which predominate by volume.)

20. Charcoal	29. Demolition Rubble	38. Evaporator Bottoms/Sludges/Concentrations
21. Incinerator Ash	30. Cation Ion-exchange Media	39. Compactable Trash
22. Soil	31. Anion Ion-exchange Media	40. Noncompactable Trash
23. Gas	32. Mixed Bed Ion-Exchange Media	41. Animal Carcass
24. Oil	33. Contaminated Equipment	42. Biological Material (Except Animal Carcass)
25. Aqueous Liquid	34. Organic Liquid (except animal carcass)	43. Activated Material
26. Filter Media	35. Glassware or Labware	59. Other. Describe in Item 11, or additional page
27. Mechanical Filter	36. Sealed Source/Device	
28. EPA or Safe Hazardous	37. Paint or Plating	

NOTE 2A: Specific Waste Descriptions. (Choose all applicable)

G. Dewatered
H. Solid
I. Combustible
J. Non-combustible
K. Air Filtration Filters
L. Asbestos

NOTE 3: Solidification, Stabilization Media Codes. (Choose up to three which predominate by volume.) For solidification media meeting disposal structural stability requirements, the numerical code must be followed by "S". For all solidification media

Solidification	94. Vinyl Ester Styrene
90. Cement	99. Other Describe in Item 13, or additional page
91. Concrete (encapsulation)	
92. Bitumen	
93. Vinyl Chloride	100. None Required